24-June-04

RE: NLDN Improvement

Dear NLDN User,

I am writing to inform you of an improvement to the NLDN that will take effect on July 1.

Peak Current Amplitude Improvements:
When estimating peak-current amplitudes, the NLDN uses a simple power-law model to compensate for signal attenuation due to propagation over finite-conductivity soil. This is sufficient for lightning events within 400 km of a sensor but underestimates propagation losses for more distant events. By modifying the parameters used in the algorithm, we can significantly reduce the random error for individual sensor measurements. At the same time, we will re-calibrate the NLDN peak-current estimate using rocket-triggered lightning data obtained in Florida in 2002-2003. The mean value for return strokes will increase by approximately 15% as a result of these changes, once implemented. With this re-calibration and propagation correction, we will reduce the overall expected error in peak current down to 15-20% -- nearly a factor-of-two improvement from earlier years.

A white paper regarding this change is available upon request.

If you have any questions, comments, or simply want additional information please give us a call and we will be glad to help.

Sincerely,

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